

Index, Vol. 22, January to June, 1923

# Concrete

MEMBER ASSOCIATED BUSINESS PAPERS, INC.

MEMBER AUDIT BUREAU OF CIRCULATIONS

A MONTHLY MAGAZINE DEVOTED TO CONCRETE CONSTRUCTION AND CEMENT MANUFACTURE

Detroit, Michigan, U. S. A.

CONCRETE-CEMENT AGE PUBLISHING CO.

R. MARSHALL, President

1807 East Grand Blvd. at Moran Street

Telephone Melrose 3814

HARVEY WHIPPLE, Editor

ROBERT W. LESLEY, Consulting Editor

DWIGHT F. JENNINGS, Associate Editor

1807 East Grand Blvd. at Moran Street

Telephone Melrose 3814

ERNEST F. BENT, Vice-Pres., Bent Concrete Pipe Co.,  
Los Angeles, Cal.

E. L. CONWELL, President E. L. Conwell & Co., Inc.,  
Philadelphia.

HENRY J. HARMS, Engineer and Builder, Courbevoie,  
France.

EDWARD N. HINES, Chairman, Wayne County Road  
Comm., Detroit.

WILLIAM M. KINNEY, Engr., General Manager, Portland  
Cement Association, Chicago.

H. J. KUELLING, Asst. State Highway Engr., Madison,  
Wis.

RICHARD K. MEADE, Chemical, Mechanical and Industrial  
Engr., Baltimore, Md.

MILTON DANA MORRILL, Architect, New York City.

J. P. H. PERRY, Vice-Pres. Turner Construction Co.,  
New York City.

HENRY P. WARNER, Pres. Onondaga Litholite Co., Syra-  
cuse, N. Y.

J. C. WITT, Structural Materials Research Laboratory,  
Chicago.

ALBERT M. WOLF, Wolf Sexton, Harper & Trueax, Engrs.,  
Chicago.

NEW YORK: Room 1710, 115 Broadway. F. F. LIN-  
COLN, Eastern Manager. Phone: Rector 9938.

PHILADELPHIA: 611 and 612 Pennsylvania Bldg.,  
ROBERT W. LESLEY, Consulting Editor.

CHICAGO: 15 E. Van Buren St., L. M. CARROLL,  
Western Manager. Phone: Wabash 2020.

Copyright 1923 by CONCRETE-CEMENT AGE PUBLISHING CO.

## A

|                                                                                                                                                                            |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Advertising, Newspaper—Sales of Block with, by<br>C. O. Gochnauer.....                                                                                                     | June 235 |
| Aggregate Denseness*—Fineness Modulus, Sur-<br>face Areas, Void Measurement, Water-<br>Cement Ratio, Cement Space Ratio, Design<br>Concrete Mixtures, by F. S. Besson..... | Jan. 10  |
| —Feldspar (A. C. I. Paper), by J. C. Pearson.....                                                                                                                          | Feb. 71  |
| —On Subgrade, by N. F. Helmers.....                                                                                                                                        | Jan. 8   |
| —Feldspar—An Interesting Case of Dangerous<br>Aggregate*, by J. C. Pearson and G. F.<br>Loughlin.....                                                                      | Apr. 144 |
| —Gravel Pits, How to Equip and Operate, by<br>H. J. Kuelling.....                                                                                                          | June 219 |
| —Premixed.....                                                                                                                                                             | Mar. 105 |
| —Silica, Fire resistant.....                                                                                                                                               | June 232 |
| —Stone Screenings as Fine—Test Summary*,<br>by Duff A. Abrams.....                                                                                                         | Apr. 128 |
| Air Compressor, Improved Schramm Portable*.....                                                                                                                            | May 206  |
| Alcement, Ciment Fondu.....                                                                                                                                                | Jan. 25  |
| American Concrete Institute Convention Program<br>(Edtl.).....                                                                                                             | Jan. 1   |
| —Concrete Institute Convention Program, Jan.....                                                                                                                           | 24       |
| —Concrete Institute Convention Review.....                                                                                                                                 | Feb. 69  |
| —Concrete Institute—20 Years of Progress.....                                                                                                                              | June 215 |
| —Concrete Pipe Assn. Convention Program, Jan.....                                                                                                                          | 36       |
| —Concrete Pipe Assn., Pipe Progress.....                                                                                                                                   | Feb. 76  |
| —Concrete Pipe Assn. Convention Summary.....                                                                                                                               | Mar. 93  |
| —Road Builders Assn. Convention and Show.....                                                                                                                              | Feb. 77  |
| —Road Builders' Association Convention Pro-<br>gram.....                                                                                                                   | Jan. 35  |
| Ants, White, Didn't Destroy Concrete.....                                                                                                                                  | May 197  |
| Arches and Piers Precast, Shipping Terminal*.....                                                                                                                          | June 241 |
| As Painless as Possible (Edtl.).....                                                                                                                                       | Apr. 123 |

## B

|                                                                     |          |
|---------------------------------------------------------------------|----------|
| Bench, Playground, of Concrete, by Julius Ruoff*.....               | Apr. 143 |
| Bins, Coal Pockets of Concrete Staves*.....                         | May 186  |
| —(Publication).....                                                 | Jan. 36  |
| Birdsell, Charles, Block and Stucco House for—<br>Minneapolis*..... | Mar. 100 |
| Block and Stucco House for Charles Birdsell,<br>Minneapolis*.....   | Mar. 100 |
| —Church, Morgan Park, Duluth*, by A. J. R.<br>Curtis.....           | May 179  |

*Nothing has been indexed under "con-  
crete" and nothing under "cement" except  
when the nature or testing of cement is in-  
volved or some statistics as to its production  
or use. Illustrated articles are denoted by an  
asterisk after the title. The months and pages  
are given.*

|                                                                                                                                                                            |          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| —Cinder and Stucco Houses—Cost Savings*.....                                                                                                                               | May 176  |
| —Cinder, House—Cochrane, New Rochelle,<br>N. Y.*.....                                                                                                                      | Mar. 96  |
| —Cinder, Houses of Increasing Popularity in<br>Pennsylvania*.....                                                                                                          | Mar. 101 |
| —Concrete, Browerville Creamery of*.....                                                                                                                                   | June 246 |
| —Concrete Fire Tests, (A. C. I. Report).....                                                                                                                               | Feb. 70  |
| —House, Sellers—13-Year Test, New Haven<br>Conn.*.....                                                                                                                     | Mar. 95  |
| —Roeth*.....                                                                                                                                                               | Apr. 162 |
| —Sales with Newspaper Advertising*, by C. O.<br>Gochnauer.....                                                                                                             | June 235 |
| —Tile, Building and Brick (A. C. I. Report).....                                                                                                                           | Feb. 69  |
| Boilers, Protection of with Cement Wash.....                                                                                                                               | June 216 |
| Boston Exposition, House Exhibit at*.....                                                                                                                                  | June 214 |
| Brick, Block, Tile and Building (A. C. I. Re-<br>port).....                                                                                                                | Feb. 69  |
| —Concrete—Fire Resistance—Woodworking<br>Plant, A. Teachout Co.....                                                                                                        | Feb. 78  |
| —Concrete House, with Unusual Foundation*.....                                                                                                                             | Feb. 76  |
| —Molds, Zagelmeyer*.....                                                                                                                                                   | Mar. 122 |
| —Masonry, Cal Strength in*.....                                                                                                                                            | June 231 |
| —Tests, Comparing Clay, Concrete and Sand<br>Lime Strength with Pier Strength—Abstract<br>of Report by Albin H. Beyer and William<br>J. Krefeld, Columbia University*..... | May 167  |
| —vs. Brick (Edtl.).....                                                                                                                                                    | May 165  |
| Bridges—Placing Concrete from Traveling Tower,<br>Grand Rapids, Mich.*.....                                                                                                | June 228 |
| Buggy or Chute Placing.....                                                                                                                                                | Mar. 105 |
| Building Construction—Bath House Withstands<br>Sulfur Vapors*.....                                                                                                         | Jan. 18  |
| —Construction—The Concrete Specialist Con-<br>tractor.....                                                                                                                 | Mar. 105 |
| —Construction, Contractor's Plant (A. C. I.<br>Report).....                                                                                                                | Feb. 71  |
| —Construction, Defects in (A. C. I. Paper).....                                                                                                                            | Feb. 72  |
| —Construction—Design—Defects in Concrete<br>Buildings, Causes and How to Minimize by<br>Proper Design, by H. D. Loring.....                                                | Apr. 148 |

|                                                                                                                                                                                            |          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| —Construction—Design to Increase Lighting<br>by Omission of Exterior Columns*.....                                                                                                         | June 227 |
| —Construction, Estimating, Methods of, by<br>Frank R. Walker.....                                                                                                                          | Mar. 111 |
| —Construction—Estimating—New Building<br>Estimators' Handbook (New Book), by<br>William Arthur.....                                                                                        | Apr. 163 |
| —Construction—Field Tests of Methods for<br>Predetermined Strength (A. C. I. Report)<br>.....                                                                                              | Feb. 73  |
| —Construction—Floor Loads—Building Code*,<br>by Ira H. Woolson.....                                                                                                                        | Apr. 133 |
| —Construction—Forms, Stairs, for Concrete<br>Buildings (Final article of series on forms)*<br>by William F. Lockhardt.....                                                                 | Mar. 89  |
| —Construction, Form Work Fire Duluth Ware-<br>house*, by Arthur R. Lord.....                                                                                                               | Mar. 113 |
| —Construction—Form Work Fire on Duluth<br>Warehouse Job, (A. C. I. Report).....                                                                                                            | Feb. 72  |
| —Construction, Industrial—Concrete Construc-<br>tion (New Book), by DeWitt C. Pond.....                                                                                                    | Apr. 163 |
| —Construction—Measurement of Concrete and<br>Estimating.....                                                                                                                               | Feb. 74  |
| —Construction—Plant, Contractor's (Am. Con.<br>Institute Comm. Report) Analysis of Chut-<br>ing and Wheeling Plant and Comparative<br>Costs*.....                                          | Apr. 156 |
| —Construction Statistics 1922*.....                                                                                                                                                        | Jan. 36  |
| —Construction, Surfaces—Exteriors (A. C. I.<br>Report).....                                                                                                                                | Feb. 72  |
| —Construction—Surfaces, Treatment of Mono-<br>lithic Buildings—Describing How a White<br>Cement and Granite Surface Was Produced<br>on a Monolithic Building*, by Robert F.<br>Havlik..... | May 173  |
| —Construction—Variables from Construction<br>Standpoint (A. C. I. Paper).....                                                                                                              | Feb. 73  |
| —Construction—Warehouse, Cotton Model for<br>Exhibit*.....                                                                                                                                 | June 246 |
| —Laws, Hoover Code—Recommended Mini-<br>mum Requirements for Small Dwelling<br>Construction.....                                                                                           | Feb. 60  |
| —Tile, Cart for Handling*.....                                                                                                                                                             | Apr. 162 |
| —Units—Angle Tiles, German Design*.....                                                                                                                                                    | June 222 |
| —Units—Volume Production Means Higher<br>Dividends for Block Makers—Plant Costs*<br>by E. W. Dienhart and Stanton Walker.....                                                              | May 191  |
| Burial Vault Advertising and Sales Practice.....                                                                                                                                           | Mar. 82  |
| Business Conditions, America Plans Greatest<br>Building Period.....                                                                                                                        | Feb. 79  |
| —Conditions—"Build in 1924", by George<br>Woodruff.....                                                                                                                                    | June 208 |
| —Conditions, Car Shortage (Edtl.).....                                                                                                                                                     | May 165  |
| —Conditions—Cycles.....                                                                                                                                                                    | Mar. 82  |
| —Conditions, Dangers of Boom (Edtl.).....                                                                                                                                                  | Apr. 123 |
| —Conditions—Keep Equipment Prices Down<br>(Edtl.).....                                                                                                                                     | June 207 |

|                                                           |          |
|-----------------------------------------------------------|----------|
| —Conditions, Silos.....                                   | Feb. 80  |
| —Conditions—The Uncommonness of Common Labor (Edtl.)..... | June 207 |
| Busy Time for Builder of Houses (Edtl.).....              | June 207 |

## C

|                                                                                                                                                                   |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Cajon Tourist Camp of Concrete*.....                                                                                                                              | June 216 |
| Calcium Chloride, Effect of on Strength of Cement.....                                                                                                            | June 246 |
| —Chloride, Use of as a Protection Against Freezing of Concrete, Paul Cottringer and Harold S. Kendall.....                                                        | Apr. 150 |
| Cal, Strength in Brick Masonry*.....                                                                                                                              | June 231 |
| —Use of—Design Safe Unit Stress at 24 Hours.....                                                                                                                  | Mar. 104 |
| Canal Slope with Concrete, Paving a 34-Degree-Queenston-Chippewa Power Development —Forms, Movable*, by A. C. D. Blanchard.....                                   | Apr. 125 |
| Car Shortage (Edtl.).....                                                                                                                                         | May 165  |
| Cement, Ciment Fondu or Alcement.....                                                                                                                             | Jan. 23  |
| —Manufacture and Use—Review of Twenty Years' Progress, Work of P. C. Association, by Lester C. Sunderland, William M. Kinney and Robert W. Lesley.....            | Jan. 29  |
| —Mills Location*.....                                                                                                                                             | Apr. 149 |
| —Plant, South Dakota State, Bids Wanted for.....                                                                                                                  | Apr. 163 |
| —Scientific Study, by S. B. Newberry.....                                                                                                                         | Jan. 30  |
| —Sold by Sack.....                                                                                                                                                | Apr. 136 |
| —Space Ratio—Fineness Modulus, Surface Areas, Void Measurement, Water-Cement Ratio, Aggregate Denseness, Design Concrete Mixtures, by F. S. Besson.....           | Jan. 10  |
| —Specifications, by F. W. Kelley.....                                                                                                                             | Jan. 30  |
| —Standards—Voluntary Setting-Up of Quality Standards in Commodity Production, by F. W. Kelley.....                                                                | June 225 |
| Chicago Drainage System, Filter Construction in*.....                                                                                                             | June 230 |
| Chimney, Must Concrete be Lined?.....                                                                                                                             | June 222 |
| Church, Block, Morgan Park, Duluth*, by A. J. R. Curtis.....                                                                                                      | May 179  |
| Chute or Buggy Placing.....                                                                                                                                       | Mar. 105 |
| Chuting & Wheeling Plant, and Comparative Costs, Analysis of (Am. Con. Institute Comm. Report)*.....                                                              | Apr. 156 |
| Ciment Fondu or Alcement.....                                                                                                                                     | Jan. 25  |
| Cinder Block House, Cochrane, New Rochelle, N. Y.*.....                                                                                                           | Mar. 96  |
| —Block Houses of Increasing Popularity in Pennsylvania*.....                                                                                                      | Mar. 101 |
| —Fill Roofs, Avoiding Expansion and Displacement of Parapet Walls.....                                                                                            | Mar. 103 |
| Cleveland Transmission Poles.....                                                                                                                                 | May 190  |
| Coal Pockets (publication).....                                                                                                                                   | Jan. 36  |
| —Pockets of Concrete Staves*.....                                                                                                                                 | May 186  |
| Colorimetric Test, Consistency, Curing, Sieve Analyses—Application to Actual Construction Work of Scientific Principles of Making Concrete*, by G. E. Warren..... | May 187  |
| Columbia University Tests, Comparing Clay, Concrete and Sand Lime Strength with Pier Strength, by Albin H. Beyer and William J. Krefeld*.....                     | May 167  |
| Columns, Exterior—Design to Increase Lighting by Omission of*.....                                                                                                | June 227 |
| Concrete Construction (New Books), by DeWitt C. Pond.....                                                                                                         | Apr. 163 |
| Coney Island Board Walk Supported on Concrete Piles*.....                                                                                                         | Jan. 21  |
| Consistency, Colorimetric Test, Curing, Sieve Analyses—Application to Actual Construction Work of Scientific Principles of Making Concrete*, by G. E. Warren..... | May 187  |
| Contractor's Plant, Building Construction (A. C. I. Report).....                                                                                                  | Feb. 71  |
| Conveyor, Portable Belt*.....                                                                                                                                     | May 205  |
| Cost Accounting in Products Manufacture*, by Mac Hanson.....                                                                                                      | May 201  |
| —Accounting in Stave Silo Erection, by Mac Hanson.....                                                                                                            | June 211 |
| —Keeping—Practical Accounting for General Contractors (New Book), by H. E. Grant.....                                                                             | Apr. 163 |
| —Records, Products Manufacture (A. C. I. Report).....                                                                                                             | Feb. 71  |
| Cotton Warehouse, Model for Exhibit*.....                                                                                                                         | June 246 |
| Creamery, Browerville, of Concrete Block*.....                                                                                                                    | June 246 |
| Culvert Forms Standardized, Details of*, by George C. Habicht.....                                                                                                | May 177  |
| —Pipe, Better, (Reference Am. Con. Pipe Assn.).....                                                                                                               | Mar. 94  |
| —Pipe, Standards (Reference only American Concrete Pipe Assn.).....                                                                                               | Mar. 93  |
| Curb and Gutter, Monolithic with—Denver Storm Water Sewer*.....                                                                                                   | May 183  |
| Curing, Colorimetric Test, Consistency, Sieve Analyses—Application of Scientific Principles of Making Concrete to Actual Construction*.....                       | May 187  |

## D

|                                                                                                                          |          |
|--------------------------------------------------------------------------------------------------------------------------|----------|
| Dams, A Controversy 20 Years Ago.....                                                                                    | Jan. 33  |
| Dancing—Floors for.....                                                                                                  | May 190  |
| Davis Ewing Concrete Co. Fence Post Business in Illinois*.....                                                           | June 209 |
| Definition of Concrete.....                                                                                              | June 208 |
| Density, Strength or Impermeability.....                                                                                 | Mar. 103 |
| Denver School, Concrete in Remodeling for*, by A. J. R. Curtis.....                                                      | May 194  |
| Denver Sewer—Storm Water, Monolithic with Curb and Gutter*.....                                                          | May 183  |
| Derrick, Barrett Portable*.....                                                                                          | June 247 |
| Design, Defects in Concrete Buildings—Causes and How to Minimize by Proper Design, by H. D. Loring.....                  | Apr. 148 |
| —Floor Slabs—Reinforcement Tests.....                                                                                    | May 177  |
| —Girders, Garage Roof, Unusual*.....                                                                                     | June 233 |
| —Reinforced Concrete Elastic Structures from Paper Models.....                                                           | Feb. 75  |
| —Safe Unit Stress at 24 Hours—Use of Cal Mar.....                                                                        | 104      |
| Destructive Agents—Action of Sulfuric Acid on Concrete, by Eric J. Ochs.....                                             | Feb. 56  |
| Destructive Agents and Protective Treatments—Sea Water—Corrosion of Reinforcement (Reference A. C. I. Comm. Report)..... | Feb. 73  |
| —Agents—Reinforcing, Corrosion of.....                                                                                   | Mar. 105 |
| —Agents, Sugar, Effect of in Concrete Mix, by Mariano Lora.....                                                          | Apr. 160 |
| —Agents—Sugar, Effect of on Cement Mortar, by Jules Dautrebande.....                                                     | Apr. 161 |
| —Agents—Sugar Juice Action on Concrete, by Eric J. Ochs.....                                                             | Apr. 161 |
| —Agents, Sulfur Vapors Do Not Injure R. C. Bathhouse*.....                                                               | Jan. 18  |
| Drafting, Structural, and Design of Details (New Book), by Carlton Thomas Bishop.....                                    | Apr. 164 |
| Drain Tile Standards, Higher Quality.....                                                                                | Mar. 93  |
| —Tile Testing in Minnesota (Reference Am. Con. Pipe Assn.).....                                                          | Mar. 94  |

## E

|                                                                                                    |          |
|----------------------------------------------------------------------------------------------------|----------|
| Earley Process, Surfaces—Fountain of Time, Lorado Taft, sculptor.....                              | Feb. 73  |
| —Process—Surfaces, Stucco, Precast Stone and Monolithic Work on Siamese Legation, Washington*..... | Feb. 61  |
| Economics, Engineering (New Book), by C. L. Fish.....                                              | Apr. 164 |
| Elastic Structures, Design of from Paper Models.....                                               | Feb. 75  |
| Engineering Economics (New Book), by C. L. Fish.....                                               | Apr. 164 |
| Estimating and Measurement of Concrete.....                                                        | Feb. 74  |
| —and Measurement of Concrete.....                                                                  | Mar. 92  |
| —Methods of, by Frank R. Walker.....                                                               | Mar. 111 |
| —New Building Estimators' Handbook (New Book), by William Arthur.....                              | Apr. 163 |

## F

|                                                                                                                                                               |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Fairy Cave, Florist's Shop, Calif.....                                                                                                                        | June 217 |
| Farm Structures—Silos, Business Conditions.....                                                                                                               | Feb. 80  |
| —Structures, Model of for Exhibit.....                                                                                                                        | May 197  |
| —Structures, Stave Silo Men Talk Better Business.....                                                                                                         | Jan. 23  |
| Feldspar Aggregate (A. C. I. Paper), by J. C. Pearson.....                                                                                                    | Feb. 71  |
| —An Interesting Case of Dangerous Aggregate*, by J. C. Pearson and G. F. Loughlin.....                                                                        | Apr. 144 |
| Fence Post Business in Illinois, Describing Operations of Davis Ewing Concrete Co.*.....                                                                      | June 209 |
| Field Tests of Methods for Predetermined Strength (A. C. I. Report).....                                                                                      | Feb. 73  |
| Filter Construction in Chicago Drainage System*.....                                                                                                          | June 230 |
| Fineness Modulus*—Surface Area, Void Measurement, Water-Cement Ratio, Aggregate Denseness, Cement Space Ratio, Design Concrete Mixtures, by F. S. Besson..... | Jan. 10  |
| Finishing Machine, Campbell—Surfaces.....                                                                                                                     | May 204  |
| Fire Escape, Dow Spiral Slide.....                                                                                                                            | June 247 |
| —Form Work—Duluth Warehouse*, by Arthur R. Lord.....                                                                                                          | Mar. 113 |
| —Form Work on Duluth Warehouse Job (A. C. I. Report).....                                                                                                     | Feb. 72  |
| —Resistance—Aggregates, Silica.....                                                                                                                           | June 232 |
| —Resistance, Brick—Woodworking Plant, A. Teachout Co.*.....                                                                                                   | Feb. 78  |
| —Tests, Concrete Block (A. C. I. Report).....                                                                                                                 | Feb. 70  |
| Floor Loads, Building Code, by Ira H. Woolson.....                                                                                                            | Apr. 133 |

|                                                                                                                                  |          |
|----------------------------------------------------------------------------------------------------------------------------------|----------|
| —Finishing Methods.....                                                                                                          | Mar. 105 |
| —For Dancing.....                                                                                                                | May 190  |
| —Proposed Standard Specifications for Concrete (A. C. I. Report).....                                                            | Feb. 71  |
| —Screed Chair*.....                                                                                                              | Jan. 38  |
| —Slabs, Reinforcement Tests.....                                                                                                 | May 177  |
| Florist's Shop, Fairy Cave, Calif.*.....                                                                                         | June 217 |
| For Better Concrete (Edtl.).....                                                                                                 | Jan. 1   |
| Forms, Culvert, Standardized, Details of*, by George C. Habicht.....                                                             | May 177  |
| —Spacer, Dudad*.....                                                                                                             | May 206  |
| —Stair, for Concrete Buildings (Final article of series on forms)*, by William F. Lockhardt.....                                 | Mar. 89  |
| —Work Fire on Duluth Warehouse Job (A. C. I. Report).....                                                                        | Feb. 72  |
| —Work Fire, Duluth Warehouse, by Arthur R. Lord.....                                                                             | Mar. 113 |
| —Types of Fireproof and Cost Comparisons*, by Leslie H. Allen, Paul Hueber, Kate Gleason, Francis Wilson, A. H. Bromley, Jr..... | Feb. 57  |
| Foundation, Concrete Brick House with Unusual*.....                                                                              | Feb. 76  |
| Fountain of Time, Lorado Taft—Earley Process, Surfaces.....                                                                      | Feb. 73  |
| Freezing of Concrete, Calcium Chloride as a Protection Against Free*, by Paul Cottringer and Harold S. Kendall.....              | Apr. 150 |

## G

|                                                                                        |          |
|----------------------------------------------------------------------------------------|----------|
| Garage Roof Girders Unusual*.....                                                      | June 233 |
| Garden and Porch Ornamental Work by Julius Ruoff, Philadelphia*.....                   | Mar. 101 |
| Girders, Garage Roof Unusual*.....                                                     | June 233 |
| Gleason Monolithic Houses, New Design—East Rochester, N. Y.*.....                      | Mar. 102 |
| Glue and Plaster Molds—Developments in Surface Treated Concrete*, by R. F. Havlik..... | Mar. 83  |
| Grave Covers of Concrete*.....                                                         | June 224 |
| Gravel Pits, How to Equip and Operate to Produce Aggregate, by H. J. Kuelling.....     | June 219 |
| Gunite in Mines.....                                                                   | June 248 |
| Gutter and Curb, Monolithic with—Denver Storm Water Sewer*.....                        | May 183  |

## H

|                                                                                                                                        |          |
|----------------------------------------------------------------------------------------------------------------------------------------|----------|
| Hardening and Waterproofing, Tests of Adensite.....                                                                                    | May 205  |
| Headstones, Preserving Old with Concrete*.....                                                                                         | June 234 |
| Helderberg Cement Co.—Transmission Poles for*.....                                                                                     | Jan. 33  |
| Hoover Code—Recommended Minimum Requirements for Small Dwelling Construction.....                                                      | Feb. 60  |
| Hotel, Tokyo's New Unique Structure.....                                                                                               | June 223 |
| House, Block and Stucco for Charles Birdsell, Minneapolis*.....                                                                        | Mar. 100 |
| —Block, Sellers—13-Year Test, New Haven, Conn.*, by Philip Sellers.....                                                                | Mar. 95  |
| —Cinder Block, Cochrane, New Rochelle, N. Y.*.....                                                                                     | Mar. 96  |
| Monolithic, Double Wall, Wood Forms, Dome Floors, for H. F. Tyler*, by H. F. Tyler.....                                                | Mar. 98  |
| —Block Bungalow, Bellingham, Wash.*.....                                                                                               | Feb. 68  |
| —Block, Cinder and Stucco—Cost Savings May.....                                                                                        | 176      |
| —Block, Cinder, of Increasing Popularity in Pennsylvania*.....                                                                         | Mar. 101 |
| —Building, Laws, Hoover Code—Recommended Minimum Requirements for Small Dwelling Construction.....                                     | Feb. 60  |
| —Busy Time for Builder of (Edtl.).....                                                                                                 | June 207 |
| —Concrete Brick, with Unusual Foundation*.....                                                                                         | Feb. 75  |
| —Construction Details—A Review*.....                                                                                                   | Feb. 41  |
| —Exhibit at Boston Exposition*.....                                                                                                    | June 214 |
| —Exhibit at Philadelphia Show*.....                                                                                                    | June 215 |
| —Floors—Types of Fireproof and Cost Comparison*, by Leslie H. Allen, Paul Hueber, Kate Gleason, Francis Wilson, A. H. Bromley, Jr..... | Feb. 57  |
| —McClatchy, Philadelphia, Natural Stone with Concrete*.....                                                                            | Feb. 63  |
| —Monolithic, F. D. Lambie New System by Francis Wilson, Rockville Center, L. I.*.....                                                  | Mar. 97  |
| —Monolithic, Gleason, New Design, East Rochester, N. Y.*.....                                                                          | Mar. 102 |
| —Review of Desirability and Applications of Concrete, by J. C. Pearson.....                                                            | Feb. 64  |
| —Stick-It-On-and-Slick-It-Up—and Other Houses (Edtl.), by Harvey Whipple.....                                                          | Feb. 39  |
| —Surfaces, Earley Process, Stucco, Precast Stone and Monolithic Work on Siamese Legation, Washington*.....                             | Feb. 61  |
| —Thoughts on Concrete, by J. C. Pearson.....                                                                                           | Feb. 64  |

## I

|                                                                             |          |
|-----------------------------------------------------------------------------|----------|
| Ickes Railway Ties, Actual Tests on, by E. Lee Heidenreich.....             | June 243 |
| Impermeability, Strength or Density.....                                    | Mar. 103 |
| Insulation, Comparative Values of Materials.....                            | Mar. 110 |
| Insulrock System Reinforced Concrete Construction.....                      | Feb. 80  |
| Inundation Method for Sand Measurement and Water Control.....               | Jan. 20  |
| —Methods for Measurement of Sand in Making Concrete (A. C. I. Paper).....   | Feb. 72  |
| Irrigation, Pipe for (publication).....                                     | Jan. 32  |
| —Pipe—Protecting Steel with Concrete in California*, by R. W. Whitaker..... | Mar. 91  |
| —Pipe Unsupported over Ravine*.....                                         | Mar. 82  |

## J

|                                 |         |
|---------------------------------|---------|
| Joint Filler to Match Road..... | Jan. 38 |
| Joints, Center, Symposium.....  | Jan. 3  |

## K

|                                         |          |
|-----------------------------------------|----------|
| Keep Equipment Prices Down (Edtl.)..... | June 207 |
|-----------------------------------------|----------|

## L

|                                                                                               |          |
|-----------------------------------------------------------------------------------------------|----------|
| Laboratory Knowledge, Applying—Proportions.....                                               | Mar. 104 |
| Lambie, F. D., New System Monolithic Houses, by Francis Wilson, Rockville Center, L. I.*..... | Mar. 97  |
| Lath and Sheathing, Concrete Boards Replace*.....                                             | June 248 |
| Lath, Metal—Useless Weights Eliminated.....                                                   | Jan. 22  |
| Lath, Reinforced Wood*.....                                                                   | June 248 |
| Leipzig Fair, Concrete Building Units and Machinery at*.....                                  | June 250 |
| Lincoln Highway Ideal Section.....                                                            | Feb. 75  |

## M

|                                                                                                                                                      |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| McClatchy Houses, Philadelphia, Natural Stone with Concrete*.....                                                                                    | Feb. 63  |
| Masonry—Brick, Comparative Tests Clay, Sand Lime and Concrete*—Abstract of Report by Albin H. Beyer and William J. Krefeld, Columbia University..... | May 167  |
| —Structures and Foundations, Design of (New Book), by Clement C. Williams.....                                                                       | Apr. 164 |
| Materials of Construction (New Book), by H. E. Pulver.....                                                                                           | Apr. 163 |
| Mausoleum, Kesterson, Superior, Neb.*.....                                                                                                           | May 185  |
| Measurement of and Estimating Concrete.....                                                                                                          | Mar. 92  |
| —of Concrete and Estimating.....                                                                                                                     | Feb. 74  |
| Miami Fordson Trailer.....                                                                                                                           | Jan. 38  |
| Mines, Gunite in.....                                                                                                                                | June 248 |
| Mixer, Atlas, with Reserve Hopper.....                                                                                                               | Mar. 122 |
| —One-Arm Man Runs.....                                                                                                                               | June 247 |
| —Smith, New Small*.....                                                                                                                              | June 249 |
| Mixing and Delivering Concrete—Pavements*, by F. S. Besson.....                                                                                      | Apr. 137 |
| —Batch vs. Continuous.....                                                                                                                           | Mar. 105 |
| Models Aid in Location of Power Plants.....                                                                                                          | June 232 |
| —Paper—Design of Elastic Structures from, Feb. 75                                                                                                    |          |
| Molds, Glue and Plaster—Developments in Surface-Treated Concrete*, by R. F. Havlik.....                                                              | Mar. 83  |
| Monolithic House, Double Wall, Wood Forms, Dome Floors, for H. F. Tyler*, by H. F. Tyler.....                                                        | Mar. 98  |
| Mortar, Cal, Strength in Brick Masonry*.....                                                                                                         | June 231 |

## N

|                                                                             |         |
|-----------------------------------------------------------------------------|---------|
| New Haven, Conn., Sellers Block House—13-Year Test*, by Philip Sellers..... | Mar. 95 |
| New Rochelle, N. Y., Cinder Block House—Cochrane.....                       | Mar. 96 |

## O

|                                                |         |
|------------------------------------------------|---------|
| Oil Storage Tanks, Fuel (A. C. I. Report)..... | Feb. 71 |
| Old Ideas for New (Edtl.).....                 | May 165 |

|                                                                       |          |
|-----------------------------------------------------------------------|----------|
| Ornamental Work—Bench, Playground, of Concrete, by Julius Ruoff*..... | Apr. 143 |
| —Work—Developments in Surface-Treated Concrete*, by R. F. Havlik..... | Mar. 83  |
| —Work—Fairy Cave, Florist's Shop, California*.....                    | June 217 |
| —Work, Porch and Garden, by Julius Ruoff, Philadelphia*.....          | Mar. 101 |

## P

|                                                                                                                                                       |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Papers, American Concrete Institute, Abstracts of.....                                                                                                | Mar. 106 |
| Parapet Walls, Cinder Fill Roofs, Avoiding Any Expansion and Displacement of.....                                                                     | Mar. 103 |
| Pavements—Mixing and Delivering Concrete*, by F. S. Besson.....                                                                                       | Apr. 137 |
| Philadelphia Show, House Exhibit at*.....                                                                                                             | June 215 |
| Piers and Arches Precast, Shipping Terminal.....                                                                                                      | June 241 |
| Piles, Coney Island Board Walk Supported on Concrete*.....                                                                                            | Jan. 21  |
| —Precast Concrete*, by Paul Kircher.....                                                                                                              | Mar. 181 |
| Pipe—American Concrete Pipe Assn. Convention Summary.....                                                                                             | Mar. 93  |
| —Bonna Pressure.....                                                                                                                                  | Apr. 136 |
| —Culvert, Better (Reference Am. Con. Pipe Assn.).....                                                                                                 | Mar. 94  |
| —Culvert, Standards (Reference only American Concrete Pipe Assn.).....                                                                                | Mar. 93  |
| —Design of Sewer (Reference only, A. C. I.).....                                                                                                      | Feb. 70  |
| —for Irrigation (publication).....                                                                                                                    | Jan. 32  |
| —Irrigation—Protecting Steel with Concrete in California*, R. W. Whitaker.....                                                                        | Mar. 91  |
| —Irrigation, Unsupported over Ravine*.....                                                                                                            | Mar. 82  |
| —Laying Concrete*, by Paul Kircher.....                                                                                                               | Mar. 108 |
| —Pressure, Development of for Water Supply.....                                                                                                       | Mar. 107 |
| —Progress, 1922, Report Secy. American Concrete Pipe Assn.....                                                                                        | Feb. 79  |
| —Sewer, Testing in Los Angeles.....                                                                                                                   | Mar. 93  |
| Placing, Chute or Buggy?.....                                                                                                                         | Mar. 105 |
| —Concrete from Traveling Tower, Grand Rapids, Mich., by A. E. Whitlock.....                                                                           | June 228 |
| Plant, Contractor's (Am. Con. Institute Comm. Report) Analysis of Chuting and Wheeling Plant and Comparative Costs*.....                              | Apr. 156 |
| Plaster and Glue Molds—Developments in Surface-Treated Concrete*, by R. F. Havlik.....                                                                | Mar. 83  |
| Poles, Transmission—Cleveland.....                                                                                                                    | May 190  |
| —Transmission for Helderberg Cement Co.*.....                                                                                                         | Jan. 33  |
| Polishing Surfaces.....                                                                                                                               | Jan. 24  |
| Porch and Garden Ornamental Work by Julius Ruoff, Philadelphia*.....                                                                                  | Mar. 101 |
| Posts, Concrete Street Markers and Lighting*.....                                                                                                     | June 250 |
| Power Plants, Models Aid in Location of.....                                                                                                          | June 232 |
| Products Manufacture—Building Units—Volume Production Means Higher Dividends for Block Makers—Plant Costs*, by E. W. Dienhart and Stanton Walker..... | May 191  |
| —Manufacturers—Cart for Handling Building Tile.....                                                                                                   | Apr. 162 |
| —Manufacture, Cost Accounting in*, by Mac Hanson.....                                                                                                 | May 201  |
| —Manufacture, Cost Records (A. C. I. Report).....                                                                                                     | Feb. 71  |
| —Manufacture, Development of (Edtl.).....                                                                                                             | Apr. 123 |
| —Manufacture—Developments in Surface-Treated Concrete*, by R. F. Havlik.....                                                                          | Mar. 83  |
| —Manufacture—Fence Post Business in Illinois, Describing Operation of Davis Ewing Concrete Co.*.....                                                  | June 209 |
| —Manufacturers, Wisconsin, Hold Convention.....                                                                                                       | Apr. 124 |
| Proportioning—Inundation Method for Sand Measurement and Water Control.....                                                                           | Jan. 20  |
| —Mixtures for Paving by Tables*, by F. S. Besson.....                                                                                                 | Jan. 10  |
| —Applying Laboratory Knowledge.....                                                                                                                   | Mar. 104 |
| —Products Mnfr.—Economy on the Mix (A. C. I. Report).....                                                                                             | Feb. 70  |
| —Quality of Concrete—Water Ratio—Inundation Methods for Measurement of Sand in Making Concrete (A. C. I. Report).....                                 | Feb. 72  |
| Protective Treatments—Sea Water—Corrosion of Reinforcement (Reference A. C. I. Comm. Report).....                                                     | Feb. 73  |
| Pump Valves, Advance in*.....                                                                                                                         | June 248 |
| —Evinrude, Improved.....                                                                                                                              | June 247 |

## Q

|                                                                                                                     |         |
|---------------------------------------------------------------------------------------------------------------------|---------|
| Quality of Concrete—Building Construction, Field Tests of Methods for Predetermined Strength (A. C. I. Report)..... | Feb. 73 |
|---------------------------------------------------------------------------------------------------------------------|---------|

|                                                                                                                                                                                                         |          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| —of Concrete—Design of Paving Mixtures*, by F. S. Besson.....                                                                                                                                           | Jan. 10  |
| —of Concrete—Improvements in Practice Application to Actual Construction Work of Scientific Principles of Making Concrete—Consistency, Colorimetric Test, Curing, Sieve Analyses*, by G. E. Warren..... | May 187  |
| —of Concrete—Inundation Method for Sand Measurement and Water Control.....                                                                                                                              | Jan. 20  |
| —of Concrete—Old Ideas for New (Edtl.).....                                                                                                                                                             | May 165  |
| —of Concrete—Placing Chute or Buggy?.....                                                                                                                                                               | Mar. 105 |
| —of Concrete—Proportions—Applying Laboratory Knowledge.....                                                                                                                                             | Mar. 104 |
| —of Concrete—Proportions—Water Ratio—Inundation Methods for Measurement of Sand in Making Concrete (A. C. I. Paper).....                                                                                | Feb. 72  |
| —of Concrete—Strength, Density or Impermeability.....                                                                                                                                                   | Mar. 103 |
| of Concrete—Testing Results, England and America Compared, by H. C. Badder.....                                                                                                                         | June 245 |
| —of Concrete—Variables from Construction Standpoint (A. C. I. Paper).....                                                                                                                               | Feb. 73  |
| Queenston-Chippewa Power Development—Paving a 34-Degree Canal Slope with Concrete* by A. C. D. Blanchard.....                                                                                           | Apr. 125 |

## R

|                                                                                                                                                                                                                                                                                                                                                                  |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Radio Tower of Reinforced Concrete.....                                                                                                                                                                                                                                                                                                                          | June 208 |
| Railway Ties Ickes, Actual Tests on, by E. Lee Heidenreich.....                                                                                                                                                                                                                                                                                                  | June 243 |
| —Ties, Reinforced Concrete*, by E. Lee Heidenreich.....                                                                                                                                                                                                                                                                                                          | June 243 |
| Reinforcement, Corrosion of—Sea Water—(Reference A. C. I. Comm. Report).....                                                                                                                                                                                                                                                                                     | Feb. 73  |
| Reinforcing, Corrosion of.....                                                                                                                                                                                                                                                                                                                                   | Mar. 105 |
| Research in Field of Concrete.....                                                                                                                                                                                                                                                                                                                               | Mar. 107 |
| Road Form, Carr*.....                                                                                                                                                                                                                                                                                                                                            | Mar. 122 |
| —Forms, Steel, by J. D. Ackenheil.....                                                                                                                                                                                                                                                                                                                           | Mar. 119 |
| —Show and Convention Program.....                                                                                                                                                                                                                                                                                                                                | Jan. 35  |
| —That Runs Past My Gate, by Roger B. Whitman.....                                                                                                                                                                                                                                                                                                                | Jan. 2   |
| Roads—Aggregates—Gravel Pits, How to Equip and Operate, by H. J. Kuelling.....                                                                                                                                                                                                                                                                                   | June 219 |
| —American Road Builders Assn. Convention and Show.....                                                                                                                                                                                                                                                                                                           | Feb. 77  |
| —Cement—Grind Clinker on Job, by H. J. Kuelling.....                                                                                                                                                                                                                                                                                                             | Jan. 5   |
| —Construction, by N. F. Helmers.....                                                                                                                                                                                                                                                                                                                             | Jan. 8   |
| —Construction—Mile a Week*.....                                                                                                                                                                                                                                                                                                                                  | Jan. 34  |
| —Construction Review (Edtl.).....                                                                                                                                                                                                                                                                                                                                | Jan. 1   |
| —Construction Time, by Clifford Older.....                                                                                                                                                                                                                                                                                                                       | Jan. 4   |
| —Construction Time Lost, by H. K. Davis.....                                                                                                                                                                                                                                                                                                                     | Mar. 116 |
| —Design, a Local Problem, by James Allen.....                                                                                                                                                                                                                                                                                                                    | Jan. 7   |
| —Design and Equipment, New Features, by Charles Upham.....                                                                                                                                                                                                                                                                                                       | Jan. 37  |
| —Design—Edges Stronger, by H. J. Kuelling.....                                                                                                                                                                                                                                                                                                                   | Jan. 5   |
| —Design, Edges Thicker, by Clifford Older.....                                                                                                                                                                                                                                                                                                                   | Jan. 4   |
| —Design, Edges Thicker, Better Subgrade, by Joe S. Boggs.....                                                                                                                                                                                                                                                                                                    | Jan. 4   |
| —Design, Edges Thicker, Center Joints, Symposium.....                                                                                                                                                                                                                                                                                                            | Jan. 3   |
| —Design—Graded Standards, by R. H. Baker.....                                                                                                                                                                                                                                                                                                                    | Jan. 8   |
| —Design—Joints, Longitudinal—Better Concrete Practice, by H. S. VanScoyoc.....                                                                                                                                                                                                                                                                                   | Jan. 8   |
| —Design, More Research, by A. W. Dean.....                                                                                                                                                                                                                                                                                                                       | Jan. 9   |
| —Design Concrete Mixtures*, by F. S. Besson.....                                                                                                                                                                                                                                                                                                                 | Jan. 10  |
| —Design, Pavement Bases as Good as One Course Concrete, by D. S. MacBride.....                                                                                                                                                                                                                                                                                   | Jan. 6   |
| —Design, Reinforcement, by B. S. Pease.....                                                                                                                                                                                                                                                                                                                      | Jan. 6   |
| —Design, Reinforcement in Pennsylvania, by H. E. Hilts.....                                                                                                                                                                                                                                                                                                      | Jan. 3   |
| —Design—Subgrade Drainage, by N. F. Helmers.....                                                                                                                                                                                                                                                                                                                 | Jan. 8   |
| —Design—Ten Points to Consider, by B. S. Pease.....                                                                                                                                                                                                                                                                                                              | Jan. 6   |
| —Design—Thicker Slabs, by B. H. Piepmeier.....                                                                                                                                                                                                                                                                                                                   | Jan. 5   |
| —Design, Thicker Slabs, by Frank F. Rogers.....                                                                                                                                                                                                                                                                                                                  | Jan. 7   |
| —Design, Trend of, by H. Eltinge Breed.....                                                                                                                                                                                                                                                                                                                      | Apr. 141 |
| —How Shall We Build Better—Outstanding Ideas on the Progress in Design and Construction of, Contributed by A. T. Goldbeck, D. S. MacBride, H. E. Hilts, Chas. J. Bennett, J. S. Boggs, Frank F. Rogers, Clifford Older, James Allen, B. H. Piepmeier, E. R. Hoffman, H. J. Kuelling, Paul Sargent, B. S. Pease, R. H. Baker, H. S. VanScoyoc, N. F. Helmers..... | Jan. 3   |
| —Joint Filler to Match.....                                                                                                                                                                                                                                                                                                                                      | Jan. 38  |
| —Lincoln Highway Ideal Section.....                                                                                                                                                                                                                                                                                                                              | Feb. 75  |
| —Maintenance Costs in Wisconsin.....                                                                                                                                                                                                                                                                                                                             | May 184  |
| —Maintenance in New York State, 1921.....                                                                                                                                                                                                                                                                                                                        | Jan. 9   |

|                                                                                                                                      |          |
|--------------------------------------------------------------------------------------------------------------------------------------|----------|
| —Maintenance — Modern Developments in Wayne County, Mich., by Leroy C. Smith                                                         | May 198  |
| —Modern Methods Constructing Concrete Pavements (Presented Michigan Conference on Highway Engineering, Feb. 1923), by E. G. Willemin | June 237 |
| —Non-Skid Surface, by Charles J. Bennett                                                                                             | Jan. 7   |
| —One-Course Specifications (A. C. I. Report)                                                                                         | Feb. 71  |
| —Pavements, Mixing and Delivering Concrete, by F. S. Besson                                                                          | Apr. 137 |
| —Portland Cement Concrete (New Book), by James T. Voshell                                                                            | Jan. 36  |
| —Spiral in San Francisco*                                                                                                            | June 214 |
| —Steel Subgrader with Scarifier Teeth*                                                                                               | May 206  |
| —Stock Piling Dangerous, by H. J. Kuelling                                                                                           | Jan. 5   |
| —Subgrade—Gravel Base, by Paul D. Sargent                                                                                            | Jan. 8   |
| —Surface Smoother, by B. H. Piepmeyer                                                                                                | Jan. 5   |
| Rockville Center, L. I., F. D. Lambie New System Monolithic Houses by Francis Wilson*                                                | Mar. 97  |
| Roofs, Cinder Fill, Avoiding Expansion and Displacement of Parapet Walls                                                             | Mar. 103 |
| Roof Tile (Edtl.)                                                                                                                    | Apr. 123 |
| —Tile Machine—New Model Walter Concrete*                                                                                             | May 205  |
| Rubbish Burner*                                                                                                                      | June 248 |
| Ruoff, Julius, Philadelphia—Ornamental Porch and Garden Work, by*                                                                    | Mar. 101 |

## S

|                                                                                                                                                             |          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Sales of Block with Newspaper Advertising*, by C. O. Gochbauer                                                                                              | June 235 |
| Sash, Steel*                                                                                                                                                | Mar. 120 |
| School, Denver, Concrete in Remodeling for*, by A. J. R. Curtis                                                                                             | May 194  |
| Screed Chair, Floors*                                                                                                                                       | Jan. 38  |
| Sea Wall—Shipping Terminal Piers and Arches Precast*                                                                                                        | June 241 |
| —Water Concrete, Coney Island Board Walk Supported on Concrete Piles*                                                                                       | Jan. 21  |
| —Water—Corrosion of Reinforcement (Reference A. C. I. Comm. Report)                                                                                         | Feb. 73  |
| —Water—Sea Wall—Shipping Terminal, Piers and Arches Precast*                                                                                                | June 241 |
| Sellers Block House—13-Year Test, New Haven, Conn., by Philip Sellers                                                                                       | Mar. 95  |
| Sewer, Design of Pipe (Reference only, A. C. I.)                                                                                                            | Feb. 70  |
| —Pipe, Testing in Los Angeles                                                                                                                               | Mar. 93  |
| —Filter Construction in Chicago Drainage System*                                                                                                            | June 230 |
| —Specifications (A. C. I. Report)                                                                                                                           | Feb. 71  |
| —Storm Water, Denver—Monolithic with Curb and Gutter*                                                                                                       | May 183  |
| Sheathing and Lath, Concrete Boards Replace*                                                                                                                | June 248 |
| Sheet Metal Workers, Home-Instruction for (New Book), by William Neubecker                                                                                  | Apr. 164 |
| Shipping Terminal Piers and Arches Precast*                                                                                                                 | June 241 |
| Sieve Analyses, Curing Colorimetric Test, Consistency—Application to Actual Construction Work of Scientific Principles of Making Concrete*, by G. E. Warren | May 187  |
| Silo, Stave, Erection—Cost Accounting in*, by Mac Hanson                                                                                                    | June 211 |
| Silos, Business Conditions                                                                                                                                  | Feb. 80  |
| Slabs, Floor—Reinforcement Tests                                                                                                                            | May 177  |

|                                                                                                                                                           |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Stadium for 1924 Olympic Games*                                                                                                                           | June 244 |
| Stadiums, Ohio State, New York Yankees, University of Pennsylvania                                                                                        | Mar. 106 |
| Stair Forms for Concrete Buildings (Final article of series on forms)*, by William F. Lockhardt                                                           | Mar. 89  |
| Standards, Engineering                                                                                                                                    | June 234 |
| Stave Silo Erection, Cost Accounting in*, by Mac Hanson                                                                                                   | June 211 |
| —Silo Men Talk Better Business                                                                                                                            | Jan. 23  |
| Staves, Concrete, Coal Pockets of                                                                                                                         | May 186  |
| Stick-It-On-and-Slick-It-Up Houses—and Other Houses (Edtl.), by Harvey Whipple                                                                            | Feb. 39  |
| Strength, Density or Impermeability                                                                                                                       | Mar. 103 |
| —Field Tests of Methods for Predetermined (A. C. I. Report)                                                                                               | Feb. 73  |
| Stucco and Block House for Charles Birdsell, Minneapolis*                                                                                                 | Mar. 100 |
| —Block and Cinder Houses—Cost Savings*                                                                                                                    | May 176  |
| —Good and Bad (Edtl.)                                                                                                                                     | Mar. 81  |
| —Surfaces—Back-Plastered Costs                                                                                                                            | Feb. 77  |
| —Surfaces, Early Process, Precast Stone and Monolithic Work on Siamese Legation, Washington*                                                              | Feb. 61  |
| —Surfaces, Revised Practice (A. C. I. Report)                                                                                                             | Feb. 72  |
| Sugar, Effect of in Concrete Mix, by Mariano Lora                                                                                                         | Apr. 160 |
| —Effect of on Concrete Mortar, Jules Dautrebande                                                                                                          | Apr. 161 |
| —Juice Action on Concrete, by Erie J. Ochs                                                                                                                | Apr. 161 |
| Sulfuric Acid—Action of on Concrete, Erie J. Ochs                                                                                                         | Feb. 56  |
| Sulfur Vapors, Bathhouse Withstands*                                                                                                                      | Jan. 18  |
| Surface Areas*—Fineness Modulus, Void Measurement, Water-Cement Ratio, Aggregate Denseness, Cement Space Ratio, Design Concrete Mixtures, by F. S. Besson | Jan. 11  |
| —Building Construction—Exteriors (A. C. I. Report)                                                                                                        | Feb. 72  |
| —Developments in Surface-Treated Concrete*, by R. F. Havlik                                                                                               | Mar. 83  |
| —Early Process, Fountain of Time, Lorado Taft, sculptor                                                                                                   | Feb. 73  |
| —Early Process, Stucco Precast Stone and Monolithic Work on Siamese Legation, Washington*                                                                 | Feb. 61  |
| —Finishing Machine, Campbell                                                                                                                              | May 204  |
| —Ornamental Work—Fairy Cave, Florists' Shop, California*                                                                                                  | June 217 |
| —Polishing                                                                                                                                                | Jan. 24  |
| —Stucco, Back-Plastered Costs                                                                                                                             | Feb. 77  |
| —Stucco, Good and Bad (Edtl.)                                                                                                                             | Mar. 81  |
| —Stucco—Revised Practice (A. C. I. Report)                                                                                                                | Feb. 72  |
| —Treatment of Monolithic Buildings; Describing How a White Cement and Granite Surface Was Produced on a Monolithic Building*, by Robert F. Havlik         | May 173  |

## T

|                                                                                 |          |
|---------------------------------------------------------------------------------|----------|
| Taft, Lorado—Fountain of Time—Early Process, Surfaces                           | Feb. 73  |
| Tanks, Fuel Oil Storage (A. C. I. Report)                                       | Feb. 71  |
| —New Design for Concrete Water (A. C. I. Paper), by W. S. Hewett                | Feb. 71  |
| Testing Results—England and America Compared, by H. C. Badder                   | June 245 |
| Tests Methods—Correction Data for Comparative Test Results from Field Specimens | Feb. 75  |

|                                                                                          |          |
|------------------------------------------------------------------------------------------|----------|
| Thomas System Unit Construction*                                                         | Feb. 78  |
| Tile, Building, Block and Brick (A. C. I. Report)                                        | Feb. 69  |
| —Machine, Hawthorne Roof*                                                                | Apr. 162 |
| Tokyo's New Hotel Unique Structure*                                                      | June 223 |
| Tourist Camp of Concrete at Cajon                                                        | June 216 |
| Tower, Radio, of Reinforced Concrete                                                     | June 208 |
| —Traveling, Placing Concrete from—Grand Rapids, Mich.,* A. E. Whitlock                   | June 228 |
| Trailer, Miami Fordson                                                                   | Jan. 38  |
| —Miami Fordson*                                                                          | Mar. 120 |
| Truck, Ruggles Road Builder*                                                             | Mar. 120 |
| Turntable, Freeman Truck*                                                                | Mar. 119 |
| Tyler, H. F., Monolithic House for—Double Wall, Wood Forms, Dome Floors*, by H. F. Tyler | Mar. 98  |

## U

|                                                                       |          |
|-----------------------------------------------------------------------|----------|
| Uncommonness of Common Labor (Edtl.)                                  | June 207 |
| Unit Construction, Insulrock System Reinforced Concrete Construction* | Feb. 80  |
| —Construction, Thomas System*                                         | Feb. 78  |

## V

|                                                                                                                                                           |         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| Void Measurement—Fineness Modulus, Surface Areas, Water-Cement Ratio, Aggregate Denseness, Cement Space Ratio, Design Concrete Mixtures*, by F. S. Besson | Jan. 10 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------|

## W

|                                                                                                                                                           |          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Warehouse, Cotton, Model for Exhibit                                                                                                                      | June 246 |
| —Job, Form Work Fire on Duluth, (A. C. I. Report)                                                                                                         | Feb. 72  |
| Water-Cement Ratio*—Fineness Modulus, Surface Areas, Void Measurement, Aggregate Denseness, Cement Space Ratio, Design Concrete Mixtures, by F. S. Besson | Jan. 10  |
| —Control, Inundation Method for Sand Measurement and                                                                                                      | Jan. 20  |
| Waterproofing (A. C. I. Committee Progress Report Reference)                                                                                              | Feb. 73  |
| —and Hardening, Tests of Adensite                                                                                                                         | May 205  |
| —Concrete—Swiss Waterworks' Assn. Investigation                                                                                                           | Apr. 163 |
| —Effect on Concrete Strength, by Duff A. Abrams                                                                                                           | June 216 |
| —Integral, Value of                                                                                                                                       | Mar. 104 |
| Water Ratio—Quality of Concrete—Proportion Inundation Methods for Measurement of Sand in Making Concrete (A. C. I. Paper)                                 | Feb. 72  |
| —Supply, Development of Pressure Pipe for                                                                                                                 | Mar. 107 |
| —Tanks, New Design for Concrete (A. C. I. Paper), by W. S. Hewett                                                                                         | Feb. 71  |
| Wheeling & Chuting Plant and Comparative Costs, Analysis of—(Am. Con. Institute Comm. Report)*                                                            | Apr. 156 |
| Wilson, Francis, Monolithic Houses, F. D. Lambie New System by, —Rockville Center, L. I.*                                                                 | Mar. 97  |
| Wisconsin Products Manufacturers Hold Convention                                                                                                          | Apr. 124 |
| —Roads, Maintenance Costs                                                                                                                                 | May 184  |
| Wrench, Pipe, Little Giant*                                                                                                                               | Apr. 162 |